Nesko Thin Timber Sale

Logging Feasibility Report

Salmon-Neskowin EA

Tillamook County, Oregon

Hebo Ranger District

Siuslaw National Forest

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Sale Description

Nesko Thin Timber Sale is a commercial thinning sale with 50-55 year old timber. The sale consists of 8 harvest units with a total of approximately 334 acres. Unit acres do not include road acres for main 4 digit roads. The sale area is located in sections 33/34, T5S, R10W, and sections 11/12, T6S, R10W, W.M., Tillamook County, Oregon. The sale is located on Forest Service roads #1200, #1268, #1280, #1633, and numerous spurs roads.

Douglas fir (Pseudostuga menziessii) and western hemlock (Tsuga heterophylla) are the dominant species in all harvest units. Douglas fir, western hemlock, red alder (Alnus rubra) and Sitka spruce (Picea sitchensis) are the harvest species for this sale. As much as feasible big leaf maple will not be felled in the units. Pacific yew was not identified in any of the 8 harvest units during stand exams, cruising and logging systems analysis. Pacific yew found during logging operations will not be felled. Minimum DBH (diameter breast height) for trees to be harvested is 7 inches. Live trees less than 7 inches will be protected where practical.

Of the 334 total harvestable acres, 57% is designed as skyline operations and 43% is designed as ground-based operations.

A yarder with a 50 foot tower, capable of lifting 20,000+ pounds and transporting logs at least 1,200 feet and a carriage with multi-span and slackpulling capabilities is used in the logging profile analysis.

Tail-tree anchors are necessary for most of the skyline corridors. Multiple stump guyline anchors may be needed for some landings located adjacent to younger stands.

Ground based yarding shall be limited to slopes 30 percent or less and designated skid trails. All designated skid trails must be approved by the sale administrator prior to use.

ArcGIS (Ver. 10) is used to calculate the harvest unit acres and existing road lengths. Temporary road lengths determined by stringbox.

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Resource Management Objectives

The stand prescriptions, unit layout, logging and transportation plans are designed to meet the following resource objectives:

- Accelerate the development of late-successional forest characteristics in managed stands by thinning heavily stocked stands to maintain stand health, promote tree growth, and enhance stand diversity.

- Manage riparian reserves consistent with the Northwest Forest Plan and Aquatic Conservation Strategy measures.

- Protect water quality and fish habitat.

- Minimize soil disturbance during all phases of harvest activity.

- Protect T&E wildlife species by implementation of operating seasons.

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Unit Logging Summary and Yarding Method

Sale Name: Nesko Thin

Units: 17, 58, 95, 97, 100, 104, 108, 127

Skyline Based Units: 17, 58, 95, 97, 100, 104, 108, 127

Ground Based Units: 58, 95, 97, 100, 104, 108, 127

Volume: 10.5 mmbf/, 20,200 ccf

Tower: 50 ft. (Madill 6150 SPCM used in analysis)

Carriage: Able to pass shackles and have slackpulling capabilities (Acme 20 used in analysis)

Tractor: Crawler tractor for landing clearing

Skidder/Yoader

Delimber

Loader/shovel

Tail tree hardware

Intermediate support rigging hardware

Chokers: Length 12ft, diameter ½"

Line Capacities of Yarder and Proposed Carriage:

Line	Diameter (in)	Drum Capacity
Skyline	0.875	2,000 feet/EIPS
Mainline	0.625	2,300 feet/EIPS
Haulback	0.5	4,300 feet/EIPS
Strawline	n/a	
Guyline	0.625	300 feet/EIPS
Choker	0.5	
Carriage	Eagle Eaglet; 1,200 pounds	

Yarding Labor	Number
Hooktender	1
Rigging slinger	1
Choker setter w/radio	1
Choker setter	1
Yarder engineer	1
Loader operator	1
Delimber operator	1

Estimated daily yarding production: 15 mbf/day net log scale

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Estimated Yarding Distances

Unit #	Average Yarding Distance (ft)	Maximum Yarding Distance (ft)
17	524	1,352
58	528	838
95	265	658
97	289	607
100	323	635
104	230	431
108	247	282
127	362	495

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Unit Summary

Stand/unit#	Sky Acreage	Ground Acreage	New Temp Road Length (ft)	Existing Temp Road Length (ft)	# Corridors Skyline	# Landings Skyline/Groundbase*
17	42	0	0	797	27	13/0
58	52	20	0	1,645	46	13/8
95	18	8	0	1,751	21	7/8
97	13	50	306	4,069	18	8/15
100	9	20	0	2,235	13	2/11
104	7	4	0	800	17	4/1
108	4	46	0	1,951	4	4/11
127	36	5	0	2,323	8	2/14
TOTALS	**181**	**153**	**306**	**15,571**	**154**	**53/68**

***Landings maybe used simultaneously for skyline and ground-base operations.**

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Payload Analysis Summary

Payload analysis calculations are based on a 0.875 diameter skyline cable and a 50 foot tower coupled with a carriage that can pass shackles and has lateral yarding capabilities.

In order to gain adequate deflection, tailhold anchors were uses on most analyzed profiles. Additional lift can be gained in some cases by hanging across draws and up adjacent slopes.

The payload analysis was determined by using the SkylineXL 3.0 Profile Analysis program and a standing skyline system. Adequate tree sizes are available for tailhold and intermediate supports using a rigging height of up to 30 feet. Adequate payloads equate to three average logs or two long logs (whole tree length, measured from stump cut to 6" top).

Net payloads to landing ranged from 3,606 lbs to 21,712 lbs.

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CT6.42# Contract Provisions

CT6.42# SPECIAL YARDING/SKIDDING METHODS. (1/93) Methods other than those specified may be approved. When appropriate, such approval shall include changes in current contract rates and Sale Area Map shall be revised.

1. Except during lateral yarding, the yarding system must keep one end of the log(s) suspended above ground during in-haul.

2. The carriage shall be positioned such that during lateral yarding, logs are to be yarded away from stream courses.

3. Ground-lead yarding is permitted within 50 feet of unit boundaries, 50 feet of tailhold trees, and 50 feet of tower position.

4. Skyline corridors will be spaced no closer than 120 feet feet at the tailhold tree. Where situations warrant changes to the corridor spacing, the Forest Service will review and make a determination on a case by case basis.

5. When skyline, haulback or other cable pass through areas of residual trees or reproduction, lines shall be pulled out of the residual trees or reproduction area prior to restringing the next skyline corridor.

6. Skyline corridors shall be as narrow as possible but not to exceed 12 feet in width.

7. Location of all skyline corridors shall be agreed and approved by the Forest Service prior to felling and or yarding.

8. Yarding across streams shall require logs to be fully suspended for 50 feet slope distance both sides of stream channel and or outside the buffered area.

9. A slackpulling carriage must be able to maintain a fixed position on the skyline during lateral yarding and be able to pass over intermediate supports. The carriage must be capable of lateral yarding up to 75 feet from skyline corridor.

10. Tractor assist may be required on some temporary roads.

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Logging Plan Narrative

All harvest unit boundaries are marked with blue boundary tags, blue ribbon and orange tracer paint.

Trees marked with orange tracer paint will cut all designated species within a radius of 30 feet (units 17, 58, 97, 100, 104, 108, 127).

Cut all trees marked with blue tracer paint (unit 17).

All landings and roads are marked with yellow plastic tags and solid blue/white ribbon.

Minor clearing is required for some landings.

Landings are located to minimize yarding over buffered stream and headwalls.

All roads and landings will be reviewed by a District hydrologist and the Forest transportation planner.

Log haul will be limited to the **dry season period on most temporary roads**. Any changes must be approved by the Forest Service prior to hauling.

Streams and headwalls may exist within the harvest units. Theses areas are buffered and excluded from the harvest units. Buffer boundaries are marked on the ground to protect slope stability and water quality. Full log suspension is required over streams and headwalls.

Skyline landings generally use fan-shaped and parallel settings, with most turnroads using single-span configurations. Tailholding on opposing slopes is emphasized, where opportunities exist, to reduce the need for tailtrees and intermediate supports.

Yarding over stream buffers or riparian areas without adequate deflection may require shorter log lengths to obtain full suspension of logs during whole-tree yarding.

Ground-based logging is planned in units 58, 95, 97, 100, 104, 108 and 127. Most of the remaining units will require some loader/shovel logging along the roadway or on designated skid trails.

Survey boundary monuments in units 17, 58, 97,104, 108, 127 are designated with orange boundary markers. Bearing trees are marked with a red painted band and metal bearing tags.